

Appl. No. 10/617,603
Reply to Office Action of April 15, 2005

Docket No. RTN-170AUS

Amendments to the Claims:

This listing of the claims will replace all prior versions, and listings, of the claims in the application:

- 1 1. (Currently Amended) A computer implemented method of storing ~~and~~ commands,
2 comprising:
3 recording a first set of commands to a command queue to provide a first dynamic
4 snapshot, wherein the first dynamic snapshot corresponds to a set of commands associated with
5 a first system state;
6 storing the first dynamic snapshot at a first time;
7 recording one or more additional sets of commands to the command queue;
8 storing the one or more additional sets of commands, wherein storing a first one of the
9 one or more additional sets of commands is spaced in time from storing a second one of the one
10 or more additional sets of commands by a first storage interval;
11 eliminating selected ones of overriding redundant, and superfluous commands from the
12 command queue to provide a second dynamic snapshot, wherein the second dynamic snapshot
13 corresponds to a set of commands associated with a second system state; and
14 storing the second dynamic snapshot at a second time, wherein a difference between the
15 first time and the second time corresponds to a second storage interval.
- 1 2. (Original) The method of claim 1, wherein the first storage interval is less than one second.
- 1 3. (Original) The method of Claim 1, wherein the first storage interval is less than five seconds.
- 1 4. (Original) The method of Claim 1, wherein the first storage interval is less than sixty
2 seconds.
- 1 5. (Original) The method of Claim 1, wherein the second storage interval is greater than sixty
2 seconds.

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- 1 6. (Original) The method of Claim 1, wherein the second storage interval is greater than five
2 minutes.
- 1 7. (Original) The method of Claim 1, wherein the second storage interval is greater than ten
2 minutes.
- 1 8. (Original) The method of Claim 1, wherein the commands include scene graph display
2 commands associated with a graphical display.
- 1 9. (Original) The method of Claim 1, wherein the commands include two-dimensional display
2 commands associated with a scene graph and associated with a graphical display.
- 1 10. (Original) The method of Claim 1, wherein the commands are associated with an air traffic
2 control (ATC) display.
- 1 11. (Original) The method of Claim 1, wherein the recording the first set of commands and the
2 recording the one or more additional set of commands are adapted to store the first set of
3 commands and the one or more additional sets of commands in an electronic solid-state
4 memory.
- 1 12. (Original) The method of Claim 1, wherein the storing the first and second dynamic
2 snapshots and the storing the one or more additional sets of commands are adapted to store the
3 first and second dynamic snapshots and the one or more additional sets of commands in a non-
4 volatile memory.
- 1 13. (Original) The method of Claim 12, wherein the non-volatile memory comprises at least one
2 of an electronic non-volatile memory and a tape recorder.
- 1 14. (Original) The method of Claim 1, further including:

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1 receiving a time of interest, wherein the time of interest is between the first time and the
2 second time;
3 retrieving the first dynamic snapshot;
4 retrieving selected ones of the one or more additional sets of commands, wherein the
5 selected ones of the one or more additional sets of commands include commands recorded at or
6 before the time of interest;
7 appending the selected ones of the one or more sets of commands to the first dynamic
8 snapshot to provide an intermediate dynamic snapshot associated with the time of interest; and
9 interpreting the commands associated with the intermediate dynamic snapshot.

1 15. (Original) The method of Claim 14, further including eliminating selected ones of
2 overriding redundant, and superfluous commands from within the intermediate dynamic
3 snapshot.

1 16. (Original) The method of Claim 14, wherein the commands include display commands
2 associated with a scene graph and associated with a graphical display, wherein the interpreting
3 the commands includes generating the graphical display.

1 17. (Original) The method of Claim 14, wherein the commands include two-dimensional
2 display commands associated with a scene graph and associated with a graphical display,
3 wherein the interpreting the commands includes generating the graphical display.

1 18. (Original) The method of Claim 14, wherein the commands are associated with an air traffic
2 control (ATC) display, wherein the interpreting the commands includes generating the ATC
3 display.

1 19. (Original) The method of Claim 1, further including:
2 receiving a time of interest, wherein the time of interest is between the first time and the
3 second time;
4 retrieving the first dynamic snapshot;

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1 interpreting the first dynamic snapshot
2 retrieving selected ones of the one or more additional sets of commands, wherein the
3 selected ones of the one or more additional sets of commands include commands recorded at or
4 before the time of interest; and
5 interpreting the selected ones of the one or more additional sets of display commands.

1 20. (Original) The method of Claim 19, wherein the commands include display commands
2 associated with a scene graph and associated with a graphical display, wherein the interpreting
3 the first dynamic snapshot includes generating the graphical display, and wherein the interpreting
4 the selected ones of the one or more additional sets of display commands includes updating the
5 graphical display.

1 21. (Original) The method of Claim 19, wherein the display commands include two-
2 dimensional display commands associated with a scene graph and associated with a graphical
3 display, wherein the interpreting the first dynamic snapshot includes generating the graphical
4 display, and wherein the interpreting the selected ones of the one or more additional sets of
5 display commands includes updating the graphical display.

1 22. (Previously Presented) The method of Claim 20, wherein the commands are associated with
2 an air traffic control (ATC) display, wherein the interpreting the first dynamic snapshot includes
3 generating the ATC display, and wherein the interpreting the selected ones of the one or more
4 additional sets of display commands includes updating the ATC display.

1 23. (Previously Presented) A computer program medium having computer readable code
2 thereon for storing commands, the medium comprising:
3 instructions for recording a first set of commands to a command queue to provide a first
4 dynamic snapshot, wherein the first dynamic snapshot corresponds to a set of commands
5 associated with a first system state;
6 instructions for storing the first dynamic snapshot at a first time;

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1 instructions for recording one or more additional sets of commands to the command
2 queue;
3 instructions for storing the one or more additional sets of commands, wherein storing a
4 first one of the one or more additional sets of commands is spaced in time from storing a second
5 one of the one or more additional sets of commands by a first storage interval;
6 instructions for eliminating selected ones of overriding redundant, and superfluous
7 commands from the command queue to provide a second dynamic snapshot, wherein the second
8 dynamic snapshot corresponds to a set of commands associated with a second system state;
9 instructions for storing the second dynamic snapshot at a second time as a second
10 dynamic snapshot, wherein a difference between the first time and the second time corresponds
11 to a second storage interval.

1 24. (Previously Presented) The computer program medium of Claim 23, wherein the commands
2 include display commands associated with a scene graph and associated with a graphical display.

1 25. (Previously Presented) The computer program medium of Claim 23, wherein the commands
2 include two-dimensional display commands associated with a scene graph and associated with a
3 graphical display.

1 26. (Previously Presented) The computer program medium of Claim 23, wherein the commands
2 are associated with an air traffic control (ATC) display.

1 27. (Previously Presented) The computer program medium of Claim 23, wherein the recording
2 the first set of commands and the recording the one or more additional set of commands are
3 adapted to store the first set of commands and the one or more additional sets of commands in
4 an electronic solid-state memory.

1 28. (Previously Presented) The computer program medium of Claim 23, wherein the storing the
2 first and second dynamic snapshots and the storing the one or more additional sets of commands

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3 are adapted to store the first and second dynamic snapshots and the one or more additional sets
4 of commands in a non-volatile memory.

1 29. (Previously Presented) The computer program medium of Claim 28, wherein the non-
2 volatile memory comprises at least one of an electronic non-volatile memory and a tape recorder.

1 30. (Previously Presented) The computer program medium of Claim 23, further including:
2 instructions for receiving a time of interest, wherein the time of interest is between the
3 first time and the second time;
4 instructions for retrieving the first dynamic snapshot;
5 instructions for retrieving selected ones of the one or more additional sets of commands,
6 wherein the selected ones of the one or more additional sets of commands include commands
7 recorded at or before the time of interest;
8 instructions for appending the selected ones of the one or more sets of commands to the
9 first dynamic snapshot to provide an intermediate dynamic snapshot associated with the time of
10 interest; and
11 instructions for interpreting the commands associated with the intermediate dynamic
12 snapshot.

1 31. (Previously Presented) The computer program medium of Claim 30, further including
2 instructions for eliminating selected ones of overriding redundant, and superfluous commands
3 from within the intermediate dynamic snapshot.

1 32. (Previously Presented) The computer program medium of Claim 30, wherein the commands
2 include display commands associated with a scene graph and associated with a graphical display,
3 wherein the interpreting the commands includes generating the graphical display.

1 33. (Previously Presented) The computer program medium of Claim 30, wherein the commands
2 include two-dimensional display commands associated with a scene graph and associated with a

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1 graphical display, wherein the interpreting the commands includes generating the graphical
2 display.

1 34. (Currently Amended) The computer program medium of Claim 30, wherein the commands
2 are associated with an air traffic control (ATC) display, wherein the interpreting the commands
3 includes generating the ATC display.

1 35. (Previously Presented) The computer program medium of Claim 23, further including:
2 instructions for receiving a time of interest, wherein the time of interest is between the
3 first time and the second time;
4 instructions for retrieving the first dynamic snapshot;
5 instructions for interpreting the first dynamic snapshot
6 instructions for retrieving selected ones of the one or more additional sets of commands,
7 wherein the selected ones of the one or more additional sets of commands include commands
8 recorded at or before the time of interest; and
9 instructions for interpreting the selected ones of the one or more additional sets of display
10 commands.

1 36. (Previously Presented) The computer program medium of Claim 35, wherein the display
2 commands include two-dimensional display commands associated with a scene graph and
3 associated with a graphical display, wherein the instructions for interpreting the first dynamic
4 snapshot include instructions for generating the graphical display, and wherein the instructions
5 for interpreting the selected ones of the one or more additional sets of display commands include
6 instructions for updating the graphical display.

1 37. (Previously Presented) A system for storing commands, comprising:
2 a recording proxy adapted to intercept the commands;
3 a dynamic snapshot generator coupled to the recording proxy for providing dynamic
4 snapshots, wherein each dynamic snapshot corresponds to a respective sets of commands and
5 each set of commands is associated with a system state;

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1 a command interface coupled to the recording proxy for providing commands;
2 a storage module coupled to the command interface and to the dynamic snapshot
3 generator, for storing the commands and for storing the dynamic snapshots.

1 38. (Previously Presented) The system of Claim 37, wherein the commands include display
2 commands associated with a scene graph and associated with a graphical display.

1 39. (Previously Presented) The system of Claim 37, wherein the commands include two-
2 dimensional display commands associated with a scene graph and associated with a graphical
3 display.

1 40. (Previously Presented) The system of Claim 37, wherein the commands are associated with
2 an air traffic control (ATC) display.

1 41. (Previously Presented) The system of Claim 37, wherein the dynamic snapshot generator
2 includes:

3 a command queue having:
4 a command stack portion for recording commands; and
5 a dynamic snapshot portion for recording commands associated with a system
6 state, and
7 a processor adapted to combine the commands in the command queue to eliminate
8 selected ones of overriding, redundant, and superfluous commands in the command queue.

1 42. (Previously Presented) The system of Claim 41, wherein the storage module is adapted to
2 store commands associated with the command stack portion and to store commands associated
3 with the dynamic snapshot portion.

1 43. (Previously Presented) The system of Claim 41, wherein the storage module is adapted to
2 provide display commands associated with the command stack portion and the display
3 commands associated with the dynamic snapshot portion for generating a graphical display.